

ACC NR: AT6034055

Progressive substitution of the fluorine atoms by hydrogen or chlorine or by trifluoromethyl groups reduces polymerization rate and yields: perfluoroisobutylene will not polymerize. Thus the rate of radiation polymerization decreases in the series: $\text{CF}_2 = \text{CF}_2 > \text{CF} = \text{CFH} > \text{CF}_2 = \text{CH}_2 > \text{CFH} = \text{CH}_2 > \text{CF}_2 = \text{CFCi} > \text{CF}_2 = \text{CF-CF}_3 > \text{CF}_2 = \text{C}(\text{CF}_3)_2$. A kinetics study showed that the polymerization of tetrafluoroethylene under heterogeneous conditions proceeds by a radical mechanism, but the kinetics are more complex than in chemical polymerization due to the effect of radiolysis products. The effect of temperature on radiation bulk polymerization rates of trifluorochloroethylene, vinylidene fluoride and tetrafluoroethylene showed the rates increased to a maximum at certain temperatures: these maxima and the corresponding energies of activation are 25°C at 10 rad/sec, -6.8 kcal/mol; 50°C at 6 rad/sec, -9 kcal/mol; 70°C at 6 rad/sec, -18.7 kcal/mol, respectively. Secondary processes with the radiolysis products start to occur at higher temperatures. Orig. art. has: 2 figures and 1 table.

SUB CODE: 071 SUBJ DATE: 25Jul66/ ORIG REF: 015/ OTH REF: 003
11/

Card 2/2

ACC NR: AT6034056

(A)

SOURCE CODE: UR/0000/66/000/000/0114/0118

AUTHOR: Sorokin, A. D.; Volkova, Ye. V.; Fokin, A. V.; Zimakov, P. V.

ORG: none

TITLE: Radiation bulk and solution polymerization of trifluorochloroethylene

SOURCE: Simpozium po radiatsionnoy khimii polimerov. Moscow, 1964. Radiatsionnaya khimiya polimerov (Radiation chemistry of polymers); doklady simpoziuma. Moscow, Izd-vo Nauka, 1966, 114-118

TOPIC TAGS: radiation polymerization, mixed halogenated organic compound, polymerization kinetics

ABSTRACT: The radiation polymerization trifluorochloroethylene (TFC1E) was studied at different irradiation dosages over a wide temperature range. There is no polymerization at -196°C; at -78°C the yield of a low molecular weight product is only 20 molec/100ev; in the range from -20 to +60°C the energy of activation of the reaction changes from 3.1 to -6.8. As radiation dosage increased, the temperature at which the maximum process rate was attained also increased. As temperature is increased from 10-50°C, the polymerization rate and polymer molecular weight increased; at higher temperatures, the rate and molecular weight decrease. Reaction mechanisms are discussed. Solution polymerization of TFC1E was studied in carbon tetrachloride,

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Freon 113, perfluorocyclobutane and benzene to determine the effect of solvent on reaction rate. Using a radical yield of 15-20 per 100ev for carbon tetrachloride, the relative radiation-chemical yields were calculated: TFC1E = 3-4; freon = 8; polyfluorocyclobutane = 3-4; and benzene = 0.2. Kinetics of the radiation polymerization were discussed and the kinetic equation for the reaction is given. Orig. art. has: 4 figures and 6 equations.

SUB CODE: 07/ SUBM DATE: 25Jul66/ ORIG REF: 006/ OTH REF: 005

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Card 2/2

L 32834-66 EWT(m)/T/EWP(j) WW/GG/RM

ACC NR: AR6000273

SOURCE CODE: UR/0081/65/000/014/S019/S019

AUTHOR: Volkova, Ye. V.; Zimakov, P. V.; Fokin, A. V.; Sorokin, A. D.;
Skobina, A. I.; Belikov, V. M.

55
54

TITLE: Radiation polymerization of fluoroolefins

B

SOURCE: Ref. zh. Khimiya, Abs. 14S109

TOPIC TAGS: olefin, polymer, radiation polymerization, radiation effect, polymerization

ABSTRACT: A study was made of the bulk polymerization of tetra-fluoroethylene, trifluoroethylene, difluoroethylene, trifluorochloroethylene and monofluoroethylene at temperatures ranging from 20 to -78°C with exposure to CO₆₀ γ -radiation in doses of 1--50 rad/sec. Under these conditions, solid high-molecular polymers were obtained. The bulk polymerization rate was found to decrease in the above order. Certain peculiarities of the processes investigated connected with the products of monomeric radiolysis in the secondary processes leading to the development of active products and connected with the heterogeneity of processes, were determined. Characteristics of radiation polymerization in bulk of hexafluoropropylene(I) in the liquid and solid phases are given. It has been found that the conversion of I occurs at

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L 32834-66

ACC NR: AR6000273

the same rate in the liquid (-78C) and the solid (-196C) phases, as well as at the phase transition point (-156C). As the temperature increases from -78C to 40C, the speed of the process increases. The polymerization of I in the bulk occurs with the formation of polymer fluids with a mol.wt from 400 to 4000. A., Sorokin. [Translation] [NT]

SUB CODE: 11, 07/

SUBM DATE: none

LS
Card 2/2

FOKIN, B.D. (Kamyshin)

Experience in studying fractions in grade 5. Mat. v shkole no. 4:51-
54 Jl-Ag '58. (MIRA 11:7)
(Fractions--Study and teaching)

ACC NR: AP6025643 (N) SOURCE CODE: UR/0413/66/000/013/0094/0094

INVENTOR: Dushits-Kogan, G. D.; Levinson, M. M.; Baranov, A. P.; Bol'shakov, D. F.; Fokin, B. P.

ORG: None

TITLE: Instrumentation for operating conditions of a gas turbine engine with a free turbine. Class 42, No. 183445

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 94

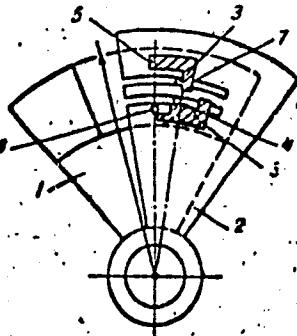
TOPIC TAGS: gas turbine engine, test instrumentation

ABSTRACT: This Author's Certificate introduces instrumentation for operating conditions of a gas turbine engine with a free turbine. The unit contains tachometers, pressure and temperature pickups at the intake, a computer and meter. Operating conditions in the engine are determined by combining the computer and the meter. The combined unit is made in the form of two disc sectors with pins and guide cams. One of the sectors indicates cruising conditions while the other indicates nominal engine conditions.

Card 1/2

UDC: 531.781:621.433

ACC NR: AP6025643



1 and 2—disc sectors;
3-6—pins; 7 and 8—
guide cams

SUB CODE: 13, 21/ SUBM DATE: 16May63

Card 2/2

S/862/62/002/000/014/029
A059/A126

AUTHORS: Borishanskiy, V.M., Maslichenko, P.A., Fokin, B.S.

TITLE: Some data on the mechanism of film boiling in a large volume of liquid

SOURCE: Teplo- i massoperenos. t. 2: Teplo- i massoperenos pri fazovym i khimicheskikh pravrashcheniyakh. Ed. by A.V. Lykov and B.M. Smol'skiy. Minsk, Izd-vo AN BSSR, 1962. 128 - 131

TEXT: Theoretical formulas for the calculation of the coefficient of heat transfer developed by V.M. Borishanskiy, L.A. Bromley, and S.S. Kutateladze were derived on the assumption of continuous laminar flow of the vapor layer near the surface. The formula for the mean coefficient of heat exchange on boiling at the vertical heated surface is:

$$\overline{\alpha}_c = \frac{\lambda''}{\delta} = \beta \lambda'' \sqrt[3]{\frac{\varphi r \gamma'' (\gamma' - \gamma'')}{\mu'' q L}}, \quad q = \text{const}, \quad (1)$$

where L is the vertical size of the heated surface, q the thermal stress of the

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S/862/62/002/000/014/029
A059/A126

Some data on the mechanism of film boiling in

surface, $\beta = 0.3$ to 0.6 (constant varying with the given boundary conditions for the velocity at the liquid-vapor interface),

$$\varphi = \frac{1 + c_p}{\gamma} \frac{t_{\text{wall}} - t^*}{2r},$$

γ ", λ ", c_p ", and μ " are the specific gravity, heat conductivity, heat capacity, and viscosity of the vapor, t_{wall} is the surface temperature, t^* the boiling point, γ' the specific gravity of the liquid, and r the latent heat of evaporation. The coefficient of heat transfer α is independent of the linear size in the film boiling at a vertical heated surface. The substitution

$$L = \left(\frac{\sigma}{\gamma' - \gamma''} \right)^{0.5}$$

was found to be advantageous, where σ is the surface tension. Moving-picture scanning was used to clarify the nature of vapor-film flow at a vertical surface and the mechanism of evaporation into the vapor film. In addition, the influence of the design of the boundaries of the heated surface on the stability of vapor-layer flow and the expediency of the mentioned substitution

Card 2/4

Some data on the mechanism of film boiling in ...

3/862/62/002/000/014/029
AC59/A126

for L were examined. The experiments were performed in the tube shown in Figure 2. By the moving-picture films, it was shown that vapor flow and vapor-film shape in boiling at horizontal and vertical surfaces are very different from each other. In the former case, laminar flow occurs at the small-diameter surface, with large, flat bubbles entering the volume and horizontal wave-like oscillations of the interface; when the thermal stress is lowered, the film thickness decreases and so does the frequency of bubble separation, but the size of the bubbles remains unchanged. The vapor film at a vertical surface represents an assembly of large vapor bubbles of various shapes near to pear-shape, separated by short sections of a very thin vapor film; at great enlargements, a strong turbulent motion of the vapor is observed. With increasing thermal stress, the horizontal dimension of the vapor bubbles and their rate of ascent are increased. Average data on the vapor thickness of various boiling liquids at a vertical surface in time and along the operating section were obtained by measuring the area of the vapor film with a planimeter. From the measured data, the mean film thickness in time δ_{red} of the vapor was calculated. It was shown by these calculations that the film thicknesses obtained this way are 10 to 15 times greater than those calculated from equation (1), and also λ''_{red} is about 20 times great-

Card 3/4

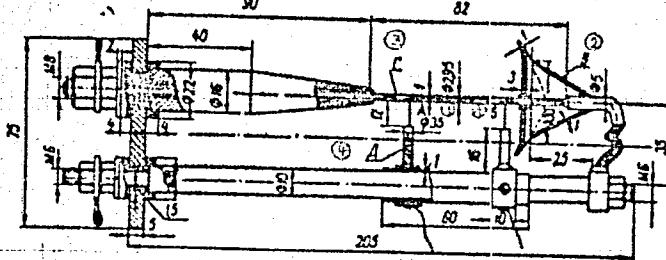
Some data on the mechanism of film boiling in

S/862/62/002/000/014/029
A059/A125

er than λ'' , which indicates the turbulent nature of vapor flow in the film. Heat transfer was experimentally shown to be independent of the length of the heat-transmitting surface in a vertical position. There are 3 figures and 1 table.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M.I. Kalinina (Leningrad Polytechnic Institute imeni M.I. Kalinina)

Figure 2: Experimental tube with a steam collector at the working position:
1 - working section; 2 - collector; 3 - working tube
1 X 18 H 9 T (1Kh18N9T); 4 - voltaic lead-out.



L 43176-65 EPF(c)/EPF(n)-2/EPR/EMT(1)/ENG(m) Pr-4/Ps-4/Pu-4 K12
ACCESSION NR: AP5009765

UR/0170/65/003/003/0290/0293

AUTHORS: Borishanskiy, V. M.; Fokin, B. S.

36

35

8

TITLE: Generalization of heat transfer data in stable film boiling on vertical surfaces under conditions of free convection in large volumes

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 8, no. 3, 1965, 290-293

TOPIC TAGS: heat transfer, free convection, liquid film boiling, Nusselt number

ABSTRACT: A parametric study was made to correlate a large body of experimental data pertaining to liquid-film boiling on vertical surfaces. An analogy was developed between liquid-film boiling and free convection of liquids expressed by

$Nu_{kt} = F_2 \left\{ Gaf \left(\frac{\gamma - \gamma'}{\gamma} \right) \right\}$, where the double primes indicate the vapor phase, γ is the specific gravity and δ' is the mean vapor film thickness. For no interaction between vapor bubbles δ' is given by $\delta' = 31 \left(\frac{s}{\gamma - \gamma'} \right)^{0.6} \left(\frac{q \mu}{r \gamma'' g} \right)^{0.63}$. The semiempirical expressions (accurate to within 2%) for the Nusselt number in moderate thickness

Card 1/2

L 43176-65

ACCESSION NR: AF5009765

film boiling are then given by

$$Nu_{\text{eff}} = 0.28 \left[Ga^* \left(\frac{\gamma - \gamma'}{\gamma'} \right) \right]^{0.13} \text{ up to } 2 \cdot 10^4 < Ga^* \left(\frac{\gamma - \gamma'}{\gamma'} \right) < 1.4 \cdot 10^5$$

$$Nu_{\text{eff}} = 0.0094 \left[Ga^* \left(\frac{\gamma - \gamma'}{\gamma'} \right) \right]^{0.57} \text{ up to } 1.4 \cdot 10^4 < Ga^* \left(\frac{\gamma - \gamma'}{\gamma'} \right) < 1.5 \cdot 10^5$$

Orig. art. has: 11 equations and 2 figures.

ASSOCIATION: Tsentral'nyy kotloturbinnyy institut im. I. I. Polzunova g. Leningrad
(Central Steam-Turbine Institute)

SUBMITTED: 24Mar64

ENCL: 00

SUB CODE: ME, TD

NO REF Sov: 005

OTHER: 007

Card 2/2 CC

BORISHANSKIY, V.M.; MASLICHENKO, P.A.; FOKIN, B.S.

Mechanism of the motion of phases in film boiling in a large
volume of liquid. Usp.nauch.fot. 9:222-227 '64.

(MIRA 18:11)

FOKIN, D.A.

TURCHANINOV, I.A., kand.tekhn.nauk; FOKIN, D.A., gornyy inzh.

Use of depth datum marks for the study of rock strata displacement.
Ugol' 32 no.12:23-25 D '57. (MIRA 11:1)
(Mine surveying)

F-6A 6/4, 6-17
GORYUNOV, V.P., red.; SLADKOVSKIY, M.I., red.; FOKIN, D.F., red.;
BASUZHDAYEV, A.V., red.; BORISOVA, L.M., red.; GURKIN, V.G.,
tekhn.red.

[Foreign commerce of the U.S.S.R. with socialist countries]
Vneshniaia torgovlia SSSR s sotsialisticheskimi stranami.
Moskva, Vneshtorgizdat, 1957. 212 p. (MIRA 11:4)

1. Moscow. Nauchno-issledovatel'skiy kon'yunkturnyy institut.
(Russia—Commerce)

FOKIN, D.
AZOV, V.; FOKIN, D.

The development of the foreign trade of the U.S.S.R. in 1956.
Vnesh.torg. 27 no.11:35-43 '57. (MIRA 10:11)
(Russia--Commerce)

MIKHAYLOV, N.N., kand.geograf.nauk; KOFTOV, G.Ye., kand.ekonom.nauk;
BAKHTOV, K.K.; NESTEROV, M.V.; SMIRNOV, A.M., prof., doktor
ekon.nauk; RUBINSHTEYN, G.I., kand.geograf.nauk; ~~ZOKIN, D.F.~~,
kand.ekon.nauk; AZOV, V.N.; KOROTAYEV, A.P. [deceased];
KEYLIN, A.D., prof.; YEMZHOV, I.P.; RAMZAYTSEV, D.F.; ANKUDINOV,
V.M.; SPANDAR'YAN, V.B., red.; SHLENSKAYA, V.A., red.izd-va;
BRONZOVA, I.A., tekhn.red.

[Handbook of Soviet foreign commerce] Spravochnik po vneshnei
torgovle SSSR. Moskva, Vneshtorgizdat, 1958. 270 p.
(Commerce) (MIRA 12:2)

RUBINSSTEYN, G.; FOKIN, D.; AZOV, V.

Soviet Union's foreign trade after the Second World War[with English
summary in insert]. Vnesh. torg. 28 no. 4:18-33 '58. (MIRA 11:?)
(Russia--Commerce)

AZOV, V.N.; BOL'SHAKOV, L.I.; BUGORSKIY, I.A.; RUBINSHTEYN, G.I.; FOKIN, D.F.;
CHEREPAKOVA, L.G.

Foreign trade of the U.S.S.R. in 1958; a survey. Vnesh.torg. 29
no.7:13-20 '59. (MIRA 12:11)
(Russia--Commerce)

LYUBIMOV, N.N., doktor ekon. nauk, prof.; FOKIN, D.F., kand. ekon. nauk; SHERESHEVSKIY, M.G., doktor ekon. nauk, prof.; PISKOPPEL, F.G., doktor ekon. nauk, prof.; DYUMULEN, I.I., kand. ekon. nauk; LOPATIN, G.S., doktor ekon. nauk, prof.; MOGILEVCHIK, A.Ye., red.

[Foreign trade of the U.S.S.R., 1946-1963] Vneshniaia torgovlia SSSR (1946-1963 gg.). Pod red. D.F. Fokina. Moskva, IMO, 1964. 189 p. (MIRA 17:6)

1. Moscow. Institut mezdunarodnykh otnosheniy. 2. Kafedra mezdunarodnykh ekonomicheskikh otnosheniy Moskovskogo gosudarstvennogo instituta mezdunarodnykh otnosheniy (for all except Mogilevchik).

ARTYUKHOVA, N.N.; BREMER, L.F.; GRIGORENKO, A.S.; IPATOVA, M.S.;
KARHYSHEVA, T.D.; KOZLOV, V.M.; KOLYSHEVA, L.I.;
KUCHUMOVA, N.A.; MAKAROVA, M.Ye.; PUCHKOVA, N.A.;
SEKIRINA, Ye.T.; SOKOLOVA, T.S.; STATIYEVA, V.F.;
TYUNYAYEVA, V.V.; KHRAMTSOVA, A.A.; CHURAYEVA, V.V.;
FOKIN, D.F., red.

[Foreign trade of the U.S.S.R. for 1959-1963; a statistical abstract] Vneshniaia torgovlia Soiuza SSR za 1959-1963 go-dy; statisticheskiy sbornik. Moskva, Vneshtorgizdat, 1965.
(MIRA 18:7)
483 p.

1. Russia (1923- U.S.S.R.) Ministerstvo vneshney torgovli. Planovo-ekonomicheskoye upravleniye. 2. Nachal'nik Planovo-ekonomicheskogo upravleniya Ministerstva vneshney torgovli SSSR (for Fokin).

SAVITSKIY, Leopol'd Mikhaylovich; FOKIN, D.P.; KLIMENTOVA, A.V.;
OVCHINNIKOV, V.V.; VAINSHTEYN, I.S.; ZAPIVAKHIN, A.I., red.;
PROKOF'YEVA, L.N., tekhn.red.

[Economic effectiveness of land improvement] Ekonomicheskia
effektivnost' melioratsii zemel'. Moskva, Gos.izd-vo sel'khoz.
lit-ry, 1960. 143 p. (MIRA 13:10)
(Reclamation of land)

GULYAYEV, N.F., kandidat tekhnicheskikh nauk; LAVROV, A.A., sanitarnyy vrach; NAGIVINA, T.Ye., sanitarnyy vrach; NIKOLAYEVA, T.A., kandidat meditsinskikh nauk; FOKIN, D.T., sanitarnyy vrach

Imaginary errors in the sanitary protection of natural waters.
Gig. i san. 22 no.3:68-73 Mr '57. (MIRA 10:6)

(WATER SUPPLY

sanitary protection of water reservoirs in Russia)

(SANITATION

same)

FOKIN, F.

Raft towing on the Volga and Kama Rivers. Rech. transp. 24
no. 6:11-12 '65. (MIRA 18:8)

1. Upravlyayushchiy trestom Volgolesosplav.

FOKIN, F.

The D401A high-capacity truck trailer. Znan.ta pratsia no.2:9
F '59. (MIRA 12:10)
(Truck trailers)

FOKIN, F.F., inzh.; BESPALOV, P.M., inzh.; RODIONOV, G.A., inzh.;
VERIGIN, N.N., prof.; KUDRYAVTSEV, G.N., inzh.;
MAR'YANSKIY, L.P., red.

[Technical conditions for planning and carrying out hydraulic engineering operations. Open and subsurface drainage of foundation pits of hydraulic structures] Tekhnicheskiy usloviya na proektirovanie i proizvodstvo gidrotekhnicheskikh rabot. Otkrytyi i gruntovyи vedootliv kotlovanov hidrotekhnicheskikh sooruzhenii. Moskva, Gosenergoizdat, 1962.
101 p. (MIRA 17:9)

1. Akademiya stroitel'stva i arkhitektury SSSR. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya, kanalizatsii, hidrotekhnicheskikh sooruzheniy i inzhenernoy hidrologii.

ALEKSEYEV, G.P.; ANDON'YEV, V.S.; ARNGOL'D, A.V.; BASKIN, S.M.;
BASHMAKOV, N.A.; BEREZIN, V.D.; BERMAN, V.A.; BIYANOV, T.F.;
GORBACHEV, V.N.; GRECHKO, I.A.; GRINBUKH, G.S.; GROMOV, M.F.;
GUSEV, A.I.; DEMENT'YEV, N.S.; DMITRIYEV, V.P.; DUL'KIN, V.Ya.;
ZVANSKIY, M.I.; ZENKEVICH, D.K.; IVANOV, B.V.; INYAKIN, A.Ya.;
ISAYENKO, P.I.; KIPRIYANOV, I.A.; KITASHOV, I.S.; KOZHEVNIKOV,
N.N.; KORMYAGIN, B.V.; KROKHIN, S.A.; KUDOYAROV, L.I.;
KUDRYAVTSEV, G.N.; LARIN, S.G.; LEBEDEV, V.P.; LEVCHENKOV,
P.N.; LEMZIKOV, A.K.; LIPGART, B.K.; LOPAREV, A.T.; MALYGIN,
G.F.; MILOVIDOVA, S.A.; MIRONOV, P.I.; MIKHAYLOV, B.V., kand.
tekhn. nauk; MUSTAFIN, Kh.Sh., kand. tekhn. nauk; NAZIMOV, A.D.;
NEFEDOV, D.Ye.; NIKIFOROV, I.V.; NIKULIN, I.A.; OKOROCHKOV, V.P.;
PAVLENKO, I.M.; PODROBINNIK, G.M.; POLYAKOV, G.Ya.; PUTILIN, V.S.;
RUDNIK, A.G.; RUMYANTSEV, Yu.S.; SAZONOV, N.N.; SAZONOV, N.F.;
SAULIDI, I.P.; SDOBNIKOV, D.V.; SEMENOV, N.A.; SKRIPCHINSKIY, I.I.;
SOKOLOV, N.F.; STEPANOV, P.P.; TARAKANOV, V.S.; TREGUBOV, A.I.;
TRIGER, N.L.; TROITSKIY, A.D.; FOKIN, F.F.; TSAREV, B.F.; TSETSULIN,
N.A.; CHUBOV, V.Ye., kand. tekhn. nauk; ENGEL', F.F.; YUROVSKIY,
Ya.G.; YAKUBOVSKIY, B.Ya., prof.; YASTREBOV, M.P.; KAMZIN, I.V., prof.,
glav. red.; MALYSHEV, N.A., zam. glav. red.; MEL'NIKOV, A.M., zam.
glav. red.; RAZIN, N.V., zam. glav. red. i red. toma; VARPAKHOVICH,
A.F., red.; PETROV, G.D., red.; SARKISOV, M.A., prof., red.;
SARUKHANOV, G.L., red.; SEVAST'YANOV, V.I., red.; SMIRNOV, K.I.,
red.; GOTMAN, T.P., red.; BUL'DYAYEV, N.A., tekhn. red.

(Continued on next card)

ALEKSEYEV, G.P.---(continued). Card 2.

[Volga Hydroelectric Power Station; a technical report on the design and construction of the Volga Hydroelectric Power Station (Lenin), 1950-1958] Volzhskaiia gidroelektrostantsiia; tekhnicheskii otchet o proektirovaniii i stroitel'stve Volzhskoi GES imeni V.I.Lenina, 1950-1958 gg. V dvukh tomakh. Moskva, Gosenergoizdat. Vol.2.[Organization and execution of construction and assembly work] Organizatsiia i proizvodstvo stroitel'nomontazhnykh rabot. Red. toma: N.V.Razin, A.V.Arngol'd, N.L. Triger. 1962. 591 p. (MIRA 16:2)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Razin).

(Volga Hydroelectric Power Station (Lenin)--Design and construction)

FOKIN, G.

New tables of increments of coordinates. MTO 2 no.7:45 Jl '60.
(MIRA 13:?)

1. Predsedatel' soveta Nauchno-tekhnicheskogo obshchestva pri
"Asgiprovodkhoze".
(Coordinates--Tables, etc.)

DUBININ, N.P., kandidat tekhnicheskikh nauk; YOKIN, G.F., inzhener.

Producing magnesium modified cast iron with a minimum of pyrophoric effect and some problems of production technology. [Trudy] MFTU no. 45:154-164 '55. (MILRA 10:6)
(Iron-magnesium alloys)

FOKIN, G.F.

Call Nr: AF 1129927

AUTHOR: See Table of Contents

TITLE: New Processes in Hydraulic Machine Building (Novoye v
gidromashinostroyenii)

PUB. DATA: Gosudarstvennoye nauchno-tekhnicheskoye izdatel'stvo
mashinostroitel'noy literatury, Moscow, 1956, 66 pp.,
1600 copies. (TRUDY VIGM, Nr XX)

ORIG. AGENCY: Vsesoyuznyy nauchno-issledovatel'skiy institut
gidromashinostroyeniya

EDITORS: Liferenko, N.N., Candidate of Technical Sciences;
Editor-in-Chief: Pokrovskiy, N.V., Engineer; Technical
Editors: Matveyeva, Ye.N. and Uvarova, A.F.; Corrector,
Semenova, O.I.

Card 1/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

PURPOSE: This collection of articles is intended for engineers, technicians, innovators in hydraulic machine production methods and allied fields.

COVERAGE: This material deals with the work carried out by the technological department of the VIGM (All-Union Institute of Hydromachinery) on improvements in the technology of hydraulic machinery. Casting of hydraulic machine parts by the investment process (lost wax) and methods of casting in shell molds are discussed and illustrated. Processes of casting machine parts from high-strength magnesium-containing cast iron are demonstrated and explained. Methods on gaging vanes of axial-flow hydraulic machinery are illustrated and tables of standardized quality requirements for machines are included. The collection contains Russian contributions. No personalities are given. There are 7 bibliographic references, all of which are Slavic.

Card 2/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

Table of Contents:

1. Vasina, Z.M., Eng. Experiment in the Manufacture of Impellers
for Centrifugal Pumps Made From Chrome Steel 1 X13,
by the Investment Casting (Lost Wax) Method. 3-10

No personalities mentioned. No references.

2. Radin, I.A., Engineer. The Manufacture of Impellers for
Centrifugal Pumps by Casting in Shell Molds. 11-22

No personalities mentioned. No references.

Card 3/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

3. Pomerantsev, L.M., Engineer. Measuring Device for Checking
Pattern Vanes of Hydraulic Propeller Turbines and
Pumps. 23-40

No personalities mentioned. No references.

Card 4/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

4. Fokin, G.F., Eng. Casting Hydraulic Machine Parts from High-strength Magnesium-containing Cast Iron. 41-49

Personalities mentioned include: Bazhenova, V.V., and Yavorinskiy, L.M. There are 7 bibliographic references, all of which are Slavic.

Card 5/6

Call Nr: AF 1129927

New Processes in Hydraulic Machine Building (Cont.)

5. Korovin, B.I., Candidate of Technical Sciences. Standardization of Quality Requirements for the Manufacture of Propeller Pumps and Small and Medium Hydraulic Turbines. 50-67

No personalities mentioned. No references.

AVAILABLE: Library of Congress

Card 6/6

KRYLOV, V.I., inzhener; FOKIN, G.F., inzhener.

On the possibility of changing over to pattern casting of large
size parts. Strei. i der.mashinestr. no.7:25-29 J1 '56.
(Precision casting) (MLRA 9:10)

SOV/137-57-6-10079

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 104 (USSR)

AUTHOR: Fokin, G.F.

TITLE: Casting Parts of Hydraulic Machinery From High-strength Magnesium-inoculated Iron (Otlivka detaley gidromashin iz vysokoprochnogo chuguna, modifitsirovannogo magniyem)

PERIODICAL: Tr. Vses. n.-i. in-t gidromashinostr., 1956, Nr 20, pp 41-49

ABSTRACT: A description is offered of the mechanical properties, the corrosion resistance, the resistance to cavitation erosion, and the sensitivity to thickness of cross-section of nodular Mg cast irons (NI). The results of determination of linear and volumetric shrinkage of NI are adduced. It is recommended that under industrial conditions the iron (I) be treated with an alloying element consisting of 10-20% Mg and 90-80% Si. Addition of this element should be on the basis of 0.3% of the I weight in Mg in the bell and that the bell be preheated while containing the alloying element to 250-350°C. If the I contain <2% Si, it is necessary to add another 0.3-0.5% of 75% Fe-Si measured in terms of the weight of the I. The temperature of the I before treatment must be >1360°, and >1400° when thin-

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SOV/137-57-6-10079

Casting Parts of Hydraulic Machinery (cont.)

walled castings are to be made. The bells should be of steel or graphite, round or square. The best results are obtained when whole ingots of alloying element cast to the size of the bell be charged therein. Data on making the alloying element are presented. Results on the casting of NI pump sleeves in metallic molds at the im. Kalinin Plant are presented. Information is presented on the start of production development of individual pump parts of NI at the Shchelkovo Small Hydraulic-turbine Plant, and the design of an equipment for treating cast iron with Mg at this plant is presented. Note is taken of the inconsistency of the results of production of NI castings and it is pointed out that careful checking on the job of the desirability of introducing NI as a material for parts of hydraulic machines is required.

Ya.P.

Card 2/2

BARBASHINA, Yelizaveta Georgiyevna; MOKIN, Gavril Fedorovich; KRYLOV, V.I.,
nauchnyy red.; ROGACHEV, F.V., red.; RAKOV, S.I., tekhn.red.

[Handbook for the young founder] Spravochnik molodogo liteishchika.
Moskva, Vses. uchebno-pedagog. izd-vo Trudrezervizdat, 1958. 347 p.
(Founding) (MIRA 12:1)

BIDULYA, P. N., PRZHIBYL, I., TELIS, M. Ya., FOKIN, G. P., SOSNENKO, M. N.,
POZDNYSHEV, V. M., SOROKIN, A. I.

"Special methods of casting" by S. IA. Golovin. Reviewed by
P.N. Bidulia and others. Lit. proizv. no.6:3 of cover Je 1960.
(MIRA 13:8)

(Founding)
(Golovin, IA.)

DUBININ, N.P.; BARINOV, N.A.; FOKIN, G.F.; TIMONICH, D.D.; IVANOV, V.I.

Practice of preparing highly resistant cast iron in basic cupola furnaces. Lit. proizv. no. 4:41-42 Ap '61. (MIRA 14:4)
(Cast iron—Metallurgy) (Cupola furnaces)

ALEKSANDROV, R.G.; BARBASHINA, Ye.G.; BAS'KO, K.P.; VARTAN'YAN, A.S.; VASILEV-SKIY, P.F.; GLAGOLEVA, L.A.; DUBININ, N.P., prof., doktor tekhn. nauk; KONSTANTINOV, L.S.; KOROTKOV, A.I.; LESNICHENKO, V.L.; PANFILOV, Ye.A.; TRUBITSYN, N.A.; TUCHKEVICH, N.M.; FADREYEV, A.D.; FOKIN, G.F.; MARTENS, S.L., inzh., red.; SOKOLOVA, T.F., tekhn. red.

[Steel casting; foundrymen's handbook] Stal'noe lit'e; spravochnik dlja masterov litseinogo proizvodstva. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 887 p. (MIRA 14:8)
(Founding)

S/117/61/000/002/014/017
A004/A101

AUTHOR: Fokin, G. F.

TITLE: Modification of cast iron by magnesium foundry alloy in the cupola hearth

PERIODICAL: Mashinostroitel', no. 2, 1961, 28

TEXT: After testing various methods of modifying cast iron by magnesium at the Luganskiy teplovosostroitel'nyy zavod im. Oktyabr'skoy revolyutsii (Lugansk Diesel Locomotive Plant imeni Oktyabr'skaya revolutsiya), which did not yield fully satisfactory results, the Plant in 1960 introduced the modification of cast iron by magnesium foundry alloy which was brought in directly into the hearth of the cupola furnace. The research work was headed by Doctor of Technical Sciences N. P. Dubinin and Chief Metallurgist of the Plant, V. I. Ivanov, in cooperation with N. A. Barinov, D. D. Timonich, M. F. Pasenchenko, V. I. Morozov, M. D. Zcrin, A. N. Yablonskiy, A. N. Bondar', N. V. Zheleznyak, and F. G. Rodin. The magnesium vapors forming when the modifier is added into the cupola hearth are not emerging to the surface of the liquid metal bath immediately, but follow an intricate path between lumps of coke, owing to which they act in the most efficient way both

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S/117/61/000/002/014/017
A004/A101

Modification of cast iron by magnesium ...

on the metal and the coke. The residual magnesium vapors burn in the oxidizing zone of the cupola furnace and the heat of this reaction overheats the metal drops which flow into the hearth. Therefore, the cast iron temperature during the modification in the cupola hearth does not decrease, but, in the contrary, increases by 10 - 15°C. The modified cast iron teemed from the cupola hearth has a lower content of non-metallic inclusions and the castings obtained from it have no "black spots", which can be explained by the filtering effect of the bed charge. At the Lugansk Diesel Locomotive Plant cast iron was modified in a cupola furnace with basic lining. To obtain an active basic slag, limestone, stabilized dolomite and fluorspar are used as flux. The magnesium-ferrosilicon foundry alloy is melted in a crucible hearth and its magnesium content is brought to 35 - 40% by dipping a bell with an additional amount of magnesium into the molten foundry alloy. The foundry alloy is crushed and screened through a 3 x 3 mm sieve. The illustration shows a schematic of the installation for feeding the foundry alloy into the cupola hearth. The author gives a description of how the foundry alloy is fed into the cupola hearth and points out that, if reservoir 2 holds 8 kg foundry alloy and the cupola hearth holds 350 kg liquid cast iron, the blowing in the foundry alloy will take some 15 seconds. Generally the first teemed ladle of cast iron obtained after the foundry alloy has been blown in is not fully modified owing to

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A004/A101

"modification of cast iron by magnesium ...

the absorption of magnesium by the coke of the bed charge. But when another portion or two of foundry alloy have been blown into the cupola hearth, the modification process is stabilized and it is possible to reduce the foundry alloy dose by 30 - 40%. There is 1 figure.

Figure:

1 - funnel; 2 - reservoir; 3 - 1" plug cock; 4 - hose or metal pipe; 5 - graphite tuyere; 6 - feed pipe; 7 - sleeve; 8 - rubber hose; 9 - sleeve; 10 - 1" pipe; 12 - cross pipe; 13 - three-way pipe; 14 and 15 - plug cocks

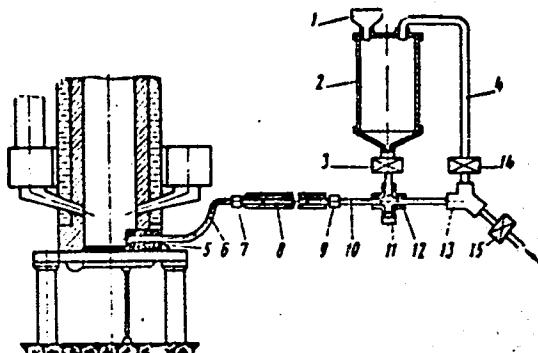


Схема устройства для подачи лигатуры в горн вагранки:
1 — воронка; 2 — резервуар; 3 — пробковый кран диаметром 1";
4 — шланг или металлическая труба; 5 — графитовая форсунка; 6 — по-
дающая труба; 7 — штуцер; 8 — прорезиненный шланг; 9 — штуцер;
10 — труба диаметром 1"; 11 — пробка; 12 — крестовина; 13 — тро-
ник; 14 и 15 — пробковые краны.

Card 3/3

ZHUKOV, A. A., kand. tekhn. nauk; FOKIN, G. F., assistant

Effect of magnesium on the chilling of cast iron. Izv. vys.
ucheb. zav.; mashinostr. no. 7:140-146 '62.
(MIRA 16:1)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni
Baumana.

(Cast iron—Testing) (Magnesium)

FOKIN, I.

More attention to technical progress. Sov.profsoiuzy 7 no.24:
37 D '59. (MIRA 12:12)

1. Zaveduyushchiy orgmassovym otdelom Ryazanskogo oblssovprofa.
(Ryazan--Electric lamps--Technological innovations)

SAZHIN, B. S.; FOKIN, I. F.; LISAY, V. E.

"The study of drying processes in a suspension bed and the development of
efficiently constructed drying apparatus."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12
May 1964.

Cent Lab of Rubezhanskiy Chemical Combine Sci Res Inst Organic Intermediate
Products and Pigments.

FISHHEYN, S.S., inzh.; KUCHEROV, I.M., inzh.; SAZHIN, B.S., inzh.;
FOKIN, I.F., inzh.

Results of the industrial adoption of a combined aero-
fountain dryer. Khim. i neft. mashinostr. no.387-9 S '64.
(MIRA 17:12)

SAZHIN, B.S., kand. tekhn. nauk; FOKIN, I.F., inzh.

Air-flow dryer for loose material. Khim. i neft. mashinostr.
no. 584~5 N '64 (MIRA 1882)

SAZHIN, B.S., kand. tekhn. nauk; FOKIN, I.F., inzh.

Combined drying unit with preliminary drying in a passing fluidized bed and final drying in the cyclone chamber. Khim. i neft. mashinostr. no.6:1-3 D '64 (MIRA 18:2)

FOKIN, I. E.

"Anatomy and Physiology of Meat Animals," Moskva, Pishchepromizdat, 1951

FOKIN, I. M.

FOKIN, I. M. -- "The Morphology of the Stomachs of Cattle." Sub 26
Jun 52, Moscow Chemicotechnological Inst of the Meat Industry.
(Dissertation for the Degree of Candidate in Biological Sciences).

SO: Vechernaya Moskva January-December 1952

USSR/Farm Animals - Cattle

Q

Abs Jour : Ref Zhur - Biol., No 15, 1958, 69277
Author : Fokin, I.M.
Inst : Moscow Agricultural Academy im. K.A. Timiryazev
Title : Genesis and Development of the Stomach of Cattle
Orig Pub : Dokl. Mosk. s.-kh. akad. im. K.A. Timiryazeva, 1957,
vyp. 27, 316-320

Abstract : The first part of the article gives a review of the data of comparative anatomy, paleontology and embryology, whereupon the author stresses that the compound stomach (S) of ruminants originated from a unilocular stomach, and the latter - from the primary foregut. In the second part 18 embryos, 28 days to two months old, are described. In the 28-day-old embryo, S has the form of a small enlargement with a constriction which separates it

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USSR/Farm Animals - Cattle

Q

Abs Jour : Ref Zhur - Biol., No 15, 1958, 69277

into cranial (rumen and reticulum) and caudal (psalterium and abomasum) parts. At the age of 30 days, the first part divides in two, and S becomes trilocular. At the age of 32 days, the dimensions of S increase and it forms an ever-increasing angle with the longitudinal axis of the body. On the 34th day, a constriction becomes apparent in the third loculus. At the age of 40 days, S already has four loculi. In the two-month-old embryo, S acquires an almost definitive form. Considerations are adduced to prove that the rumen, psalterium and abomasum have a common origin from the foregut without the participation of the esophagus.

Card 2/2

FOKIN, I.M.

SOV-26-58-8-40/51

AUTHOR: Ayrapet'yants, A.E., Fokin, I.M. (Town of Tashauz, Turkmenian SSR)

TITLE: The Jerboa of Bobrinskiy in the Kara-Kum (Tushkanchik Bobrinskogo v Karakumakh)

PERIODICAL: Priroda, 1958, Nr 8, p 119 (USSR)

ABSTRACT: The jerboa Allactaga bobrinskii Kolesnikov is one of the rarest rodents of the Soviet Union. It was described first in 1937, and only a small number were known to exist in the south and central parts of the Kyzyl-Kum. Privalov, V.N. observed that this jerboa lives in sandy and sandy-gravelly places. But the animal's ecology still remains largely unknown. Now the animal was seen far to the west from its assumed sole habitat, viz in the Zaunguzkiye Karakumy. There 2 male adult jeroas were caught in spring and fall 1957. In its habitat, half-bushes, such as Salsola rigida, Anabasis salsa and, in places, Haloxylon aphyllum are growing. The dimensions of the animals agree with those given in available literature: length of the body 119 and 120 mm, of the tail 164 mm, of the hind foot 58 to 59 mm, of the ear 22 to 24 mm. There are 3 Soviet references.

Card 1/1

1. Jerboa--Ecology--USSR 2. Rodents--USSR

PETROV, O.V.; POKIN, I.M.

Distribution and population density of murine rodents on seed plots
of the forest-steppe oak woods. Vest LGU 15 no.15:69-81 '60.

(MIRA 13:8)

(Belgorod Province--Field mice)

(Forest fauna)

FOKIN, T. M.

AYRAPET'YANTS, A.N.; FOKIN, I.M.

Junging foxhole (Allactaga sibirica Fomata), a new species for
the rodent fauna of U.S.S.R. Vest IGU 16 no. 21:131-132 '61.
(Vol. 14:12)
(Tashkum District--Tereljons)

FOKIN, I.M.

Jerboa and argali on the use Ust-Urt Plateau. Priroda 52
no. 3:67-69 '63. (MIRA 16:4)

1. Zoologicheskiy institut AN SSSR, Leningrad.
(Ust-Urt-Jerboas) (Ust-Urt-Argali)

FOKIN, I.M.

Characteristics of the running of jerboas. Biul. MOIP. Otd.
biol. 68 no.5:22-28 S-0 '63. (MIRA 16:10)

Fokin, I. Ye.

USSR/ Metallurgy - Antifriction alloys

Card 1/1 Pub. 128 - 18/33

Authors : Lakedemonskiy, A. V.; Pogozhev, B. V.; Rudnitskiy, N. M.; and Fokin, I. Ye.

Title : Results of operational tests of the new antifriction COC 6-6 alloy

Periodical : Vest. mash. 36/1, 55-56, Jan 1956

Abstract : Results of operational tests conducted on COC 6-6 alloy introduced by the Moscow Automobile Plant im. Stalin, and the Automobile-Engine Scientific Institute, for the use in bushings of internal combustion engines, is given. Microstructure, hardness and chemical composition of the above mentioned alloy, are given. Illustrations; tables.

Institution :

Submitted :

FOKIN, K., kandidat tekhnicheskikh nauk.

Precision method of calculating moisture conditions in refrigerator casings. Khokh. tekhn. 32 no.3:28-32 Jl - S '55. (MLRA 9:1)
(Refrigeration and refrigerating machinery)

USSR/Diseases of Farm Animals. Diseases Caused by Helminths

R

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 80295

Author : Khomitskiy F.V., Fokin K.A.

Inst : Turkmen Agricultural Institute

Title : The Problem of Clinical Symptoms and Pathomorphology of
Uncylostomiasis in Dogs.

Orig Pub : Tr. Turkmen. s.-kh. in-ta, 1957, 9 , 265-267

Abstract : No abstract

Card : 1/1

TEMKIN, L.Ye., inzh., red.; PERMYAKOV, S.I., kand. tekhn.nauk, red.;
FOKIN, K.F. doktor tekhn.nauk, red.; IL'NSKIY, V.M., kand.
tekhn. nauk, red.; PETROVA, V.V., red. izd-va; KOMAROVSKAYA,
L.A., tekhn. red.

[Construction norms and regulations] Stroitel'nye normy i
pravila. Moskva, Gosstroizdat. Pt.2. Sec.A. ch.7. [Heat
engineering in construction; design specifications] Stroi-
tel'naia teplotekhnika; normy proektirovaniia (SNiP II-A.
7-62). 1963. 29 p. (MIRA 16:8)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Gosudarstvennyy komitet Soveta Ministrov SSSR po delam stroitel'stva (for Temkin). 3. Nauchno-issledovatel'skiy institut stroitel'noy fiziki Akademii stroitel'stva i arkhitektury SSSR (for Permyakov). 4. Nauchno-issledovatel'skiy institut Glavnogo upravleniya po zhilishchnomu i grazhdanskому stroitel'stvu v g. Moskve (for Fokin). 5. Moskovskiy inzhenerno-stroitel'nyy institut im. V.V. Kuybysheva (for Il'inskiy). (Heat engineering)

FOKIN, K.F., doktor tekhn.nauk; BRILING, R.Ye., kand.tekhn.nauk;
KHLEVCHUK, V.R., kand.tekhn.nauk

Thermotechnical properties of single-core ceramic panels. Stroi.
mat. 9 no.9:27-29 S '63. (MIRA 16:10)

FOKIN, K.F.

24912. Tokin, K.F. Koefitsiyenti Teploperedachi Okon V Kirvichnih Stenakh.
V Sb: Issledovaniya Po Stroit. Fizike. M.-L., 1949, S. 121-30 --
Bibliogr: 8 Nazr.

So: Letopis' No. 33, 1949

FOKIN, K.F.

24914 Fokin, K.F. Primeneniye Teplomera Dlya Opredeleniya Teplotzashchitnykh Sroystv Naruzhnykh Ograzhdeniy. V Sb: Issledovaniya Po Stroit. Fixike. M.-L., 1949, S. 131-40

So: Letopis' No. 33, 1949

FOKIN, K.F.

24913 Fokin, K. F. Pribor Dlya Opredeleniya Koefitsienta Teploprorodnosti Stroiteel'nikh Materialov. V. Sb: Issledoraniya Po Stroit. Fizike. M.-L., 1949, S. 201-20

So: Letopis' No. 33, 1949

FOKIN, K.F., kandidat tekhnicheskikh nauk; DYURNBAUM, N.S., doktor tekhnicheskikh nauk, redaktor [deceased].

[Thermal engineering for walls and roofs] Stroitel'naia teplotekhnika
ograzhdaiushchikh chastei zdanii. Izd.3., perer.i dop. Moskva, Gos.
izd-vo lit-ry po stroitel'stvu i arkhitektуре, 1953. (MLRA 7:6)
(Heating) (Dampness in buildings)

Name: FOKIN, Konstantin Fedorovich

Dissertation: Construction Heat Engineering of Retaining Sections of Buildings

Degree: Doc Tech Sci

Affiliation: Not indicated

Defense Date, Place: 12 Oct 56, Council of Central Sci Res
Inst of Industrial Constructions

Certification Date: 7 Sep 57

Source: BMVO 22/57

MURASHEV, V.A., prof., doktor tekhn.nauk; MIRONOV, S.A., prof., doktor tekhn.nauk; AL'KSANDROVSKIY, S.V., kand.tekhn.nauk; TAL', K.E., kand.tekhn.nauk; DMITRIYEV, S.A., kand.tekhn.nauk; MULIN, N.M., kand.tekhn.nauk; SIGALOV, E.Ye., kand.tekhn.nauk; NEMIROVSKIY, Ye.M., kand.tekhn.nauk; TABENKIN, N.L., inzh. [deceased]; KALATUROV, B.A., kand.tekhn.nauk; BRAUDE, Z.I., inzh.; KRYLOV, S.M., kand.tekhn.nauk; FOKIN, K.F., doktor tekhn.nauk; GUSEV, N.M., prof., doktor tekhn.nauk; YAKOVLEV, A.I., inzh.; KORENEV, B.G., prof., doktor tekhn.nauk; DERESHKEVICH, Yu.V., inzh.; MOSKVIN, V.M.; LUR'YE, L.L., inzh.; MAKARICHEV, V.V., kand.tekhn.nauk; SHEVCHENKO, V.A., inzh.; VASIL'YEV, B.F., inzh.; KOSTYUKOVSKIY, M.G., kand.tekhn.nauk; MAGARIK, I.L., inzh.; IL'YASHEVSKIY, Ya.A., inzh.; LARIKOV, A.F., inzh.; STULOV, T.T., inzh.; TRUSOV, L.P., inzh.; LYUJKOVSKIY, I.G., kand.tekhn.nauk; POPOV, A.N., kand.tekhn.nauk; VINOGRADOV, N.M., inzh.; USHAKOV, N.A., kand.tekhn.nauk; SVERDLOV, P.M., inzh.; TER-OVANESOV, G.S., inzh.; GLADKOV, B.N., kand.tekhn.nauk; KOSTOCHKINA, G.V., arkh.; KUREK, N.M.; OSTROVSKIY, M.V., kand.tekhn.nauk; PEREL'SHTEYN, Z.M., inzh.; BUKSHTEYN, D.I., inzh.;

(Continued on next card)

MURASHEV, V.A.---(continued) Card 2.

MIKHAYLOV, V.G., kand.tekhn.nauk; SIGALOV, E.Ye., kand.tekhn.nauk; GVOZDEV, A.A., prof., retsenzent; MIKHAYLOV, V.V., prof., retsenzent; PASTERNAK, P.L., prof., retsenzent; SHUBIN, K.A., inzh., retsenzent; TEMKIN, L.Ye., inzh.. nauchnyy red.; KOTIK, B.A., red. izd-vs; GORYACHEVA, T.V., red.izd-vs; MEDVEDEV, L.Ya., tekhn.red.

[Handbook for designers] Spravochnik proektirovshchika. Pod ob-shchei red. V.I.Murasheva. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam. Vol.5. [Precast reinforced concrete construction elements] Sbornye zhelezobetonnye konstruktsii. 1959. 603 p.

(MIRA 12:12)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledo-vatel'skiy institut betona i zhelezobetona, Perovo. 2. Deystvitel'-nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Murashev, Gvozdev, Mikhaylov, V.V., Pasternak, Shubin). 3. Chlen-korresp. Akademii stroitel'stva i arkhitektury SSSR (for Mironov, Gusev, Moskvin, Kurek).

(Precast concrete construction).

FOKIN, K.F., doktor tekhn.nauk

Coefficient of heat assimilation. Izv.ASIA no.3:96-97 '62.
(MIRA 15:11)
(Walls---Thermal properties)

41391

II.3900
II.4140

S/096/62/000/010/001/001
E202/E435

AUTHORS: Vukalovich, M.P., Doctor of Technical Sciences, Professor;
Zubarev, V.N., Candidate of Technical Sciences,
Fokin, L.R., Engineer

TITLE: Calculation of thermodynamic properties of potassium
at temperatures up to 1300°C and pressures up to
25 kg/cm²

PERIODICAL: Teploenergetika, no.10, 1962, 65-72

TEXT: Gases dissociating at high temperatures according to
 $X_2 \rightleftharpoons 2X$ are treated as reacting, ideal mono- and bi-atomic
components of equilibrium mixtures. A table is compiled for
partial derivatives of first order for pressure p, temperature T,
degree of dissociation α , specific volume v, entropy s,
enthalpy i and internal energy u. This table, compiled on the
basis of published work, can also be used for the calculation of
 α_T -coeff. of heat expansion and isothermal and adiabatic
compressibility β_T and β_s respectively. A detailed
discussion of a number of thermodynamic properties in the
regions of partly condensed vapour and along the saturation curve
Card 1/4 X

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E202/E435

Calculation of thermodynamic ...

is given; it includes the differential Joule-Thomson effect α_{JT} for superheated vapour and by referring p , α , c_p to saturation curve it is possible to calculate the JT effect on the saturation curve, from the side of the single phase region. The Clausius-Clapeyron equation is used for the evaluation within the condensing vapour region. Detailed attention is given to the application of sound velocity in the analyses of flow processes in vapours. In the calculation of the former, it is assumed that the vapours comprise a hydrodynamically homogeneous medium of reacting ideal gases, their degree of dryness x , being sufficiently high to disregard the volume and compressibility of the liquid phase. The sound velocity is calculated from the Laplace equation, assuming infinitely small adiabatic perturbation propagated in the non-viscous and non (heat) conducting medium. Further assumptions are used in calculating the "thermodynamic" velocity of sound in superheated and saturated vapours on the side of the single phase region of the dissociating vapours. In actual calculations a concept of "sonic adiabatic indicator" was introduced, defined as

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S/096/62/000/010/001/001
E202/E435

Calculation of thermodynamic ...

$k_s = -\frac{v}{p} \left(\frac{\partial p}{\partial v}\right)_s$, which in the case of dissociating gas was expressed as: $k_s = \frac{c_p}{c_v(1 + \xi)}$, where $\xi = \frac{\alpha}{2}(1 - \alpha)$.

The considerably more complex flow processes of the partly condensed vapour are also considered using largely formulae and conditions stipulated by I.I.Novikov and Yu.S.Trelin (Prikladnaya mekhanika i tekhnicheskaya fiziki, no.2, 1960). The latter are also used to compile a table of thermodynamic properties of potassium vapours from 500 to 1300°C, taking heat of dissociation $D_0(K_2) = 11842 + 1000 \text{ kcal/mol}$ and taking the values of saturation pressure by extrapolating the equilibrium vapour to liquid from 800 to 1300°C from the experimental enthalpy data of liquid potassium. The table of saturated potassium vapour lists: heat contents c_{sat} , $c_p^{\text{sing.ph.}}$, $c_v^{\text{sing.ph.}}$ and $c_v^{\text{"two ph."}}$; differential JT effect $\alpha_{\text{JT}}^{\text{"sing.ph."}}$ and $\alpha_{\text{JT}}^{\text{"two ph."}}$ and the above k_s as $k_s^{\text{"sing.ph."}}$ and $k_s^{\text{"two ph."}}$ and also sound velocities $a^{\text{"sing.ph."}}$ and $a^{\text{"two ph."}}$. Yet another table lists the

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Calculation of thermodynamic ...

S/096/62/000/010/001/001
E202/E435

following properties of superheated potassium vapours: α , specific volumes, i and s . Additional three diagrams give the results of calculations on the side of the superheated vapour viz. c_p vs $t^{\circ}\text{C}$; k_g vs $t^{\circ}\text{C}$ and a vs s , the last including the region of condensing vapour up to 0.6. Brief general conclusions and error analysis are included. There are 3 figures and 3 tables.

ASSOCIATION: Moskovskiy energeticheskiy institut
(Moscow Power Engineering Institute)

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39743

S/096/62/000/008/004/004
E194/E455

11,3900

AUTHORS: Vukalovich, M.P., Doctor of Technical Sciences, Professor,
Zubarev, V.N., Candidate of Technical Sciences,
Fokin, L.R., Engineer

TITLE: Calculation of the thermodynamic properties of
potassium vapour at temperatures up to 1300°C and
pressures up to 25 kg/cm²

PERIODICAL: Teploenergetika, no.8, 1962, 81-86

TEXT: Potassium vapours are a mixture of molecules of various atomicity (K_1 , K_2 etc). The thermodynamic properties of the components such as K_1 and K_2 in the ideal gas condition have been calculated previously up to 2500°K but the properties of mixtures have apparently not been studied. This article shows that to a first approximation and up to the maximum pressures used (about 25 kg/cm²) it is possible to ignore the reality of the vapours and also the possible presence of molecules K_3 , K_4 and so on. Accordingly, the potassium vapours are considered as an equilibrium mixture of chemically reactive ideal monatomic and diatomic gases. Existing data on the following subjects is

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Calculation of the thermodynamic ... E194/E455

reviewed: heat of dissociation, saturated vapour pressure, equilibrium concentrations and properties of reacting mixture. The available results are used to calculate the values given in Table 2. These values apply on the saturation line. The results obtained are compared with those of other authors and are discussed. An enthalpy/entropy diagram for potassium is plotted. The likely errors in the results are assessed and are mostly of the order of a few percent. There is need for more accurate experimental knowledge of the heat of dissociation of the molecule K₂ and of other properties. The calculations are valid provided that thermodynamic equilibrium is set up in the mixture, but the extent to which this equilibrium is in fact observed, for example during supersonic flow of vapour, requires special consideration. In addition to the work described in this article, tables have been drawn up and diagrams of state constructed for superheated potassium vapour at temperatures up to 1300°C, including the specific heats at the speed of sound; and a more complete table of the properties of the saturated vapour has been drawn up. There are 3 figures and 2 tables.

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(Moscow Power Engineering Institute)

Table 2 - column headings:

- 1 - t , °C
- 2 - p , kg/cm²
- 3 - α'' (degree of dissociation)
- 4 - μ'' , kg/kmol (weight per kilomole)
- 5 - v'' , m³/kg
- 6 - i' , kcal/kg (enthalpy)
- 7 - i'' , kcal/kg (enthalpy)
- 8 - r , kcal/kg (specific heat of vapourization)
- 9 - s' , kcal/kg °K (entropy)
- 10 - s'' , kcal/kg °K (entropy)

Card 5/3

FOKIN, L.R.

Some aspects of the thermodynamics of reacting ideal gases. Teplofiz.
vys. temp. 1 no.3:338-347 N-D '63. (MIRA 17:3)

1. Moskovskiy energeticheskiy institut.

AGAPOVA, N.I.; PASKAR', B.L.; FOKIN, L.R.

Calculating the thermodynamic properties of cesium vapors at
temperatures to 1500°K and pressures to 22 bars. Atom. energ.
15 no.4 292-302 O '63. (MIRA 16:10)

FOKIN, L.R.

Generalized tables of the thermodynamic properties of dissociating
ideal gases. Teplofiz. vys. temp. 2 no.3:367-377 My-Je '64.
(MIRA 17:8)

l. Moskovskiy energeticheskiy institut.

FOKIN, L.R.

Critical parameters of alkali metals. Inzh.-fiz. zhur. 7 no.1:98-103
Ja '64. (MIRA 17:2)

1. Energeticheskiy institut, Moskva.

ACC NR: AP6021211

SOURCE CODE: UR/0294/66/004/003/0343/0350

AUTHOR: Fokin, L. R.

ORG: Moscow Power Engineering Institute (Moskovskiy energeticheskiy institut)

TITLE: Thermodynamic properties of a two-phase region of binary solutions in steady state

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 3, 1966, 343-350

TOPIC TAGS: binary solution, thermodynamic process, temperature entropy diagram

ABSTRACT: Sets of differential equations describing the properties of two-phase systems of constant concentration are derived for general thermodynamic states and for a simplified case of ideal solutions in states far removed from the critical state. The investigation is aimed at design of cyclic stationary and non-stationary steam generators. It is assumed that temperature equilibrium exists between the phases. The thermodynamic system is essentially described by differential equations for the phase change. The solution is written as a set of Jacobians, some of which are worked out in detail. An example of an ideal ¹¹³Hg-Tl solution with 0.4 molar concentration of Tl is worked out and temperature-concentration (at constant pressure) and temperature-entropy curves are given. This example is used to show how generator cycles can be optimized in the design. The method presented is also useful in the solution of techni-

UDC: 532.77:536.423

Card 1/2

ACC NR: AP6021211

cal thermodynamic problems with a wide range of parameters. Orig. art. has: 22 formulas, 3 figures.

SUB CODE: 20/ SUBM DATE: 01Feb65/ ORIG REF: 004/ OTH REF: 003

Card 2/2

FOKIN, M.A.; KHADZHAYEVA, T.I.

Vascular reactions in rheumatic lesions of the nervous system.
Vop.revm. 1 no.4:35-42 O-D '61. (MIRA 16:3)

1. Iz kafedry nervnykh bolezney (zav. - prof. N.S. Chetverikov)
TSentral'nogo instituta usovershenstvovaniya vrachey (nauchnyy
rukovoditel' - prof. M.B. Tsuker), Moskva.
(NERVOUS SYSTEM, VASCOMOTOR) (RHEUMATIC FEVER)

SYROYECHKOVSKAYA, M. Ye.; FOKIN, M. A. (Moskva)

Some characteristics of the plethysmogram in patients with
various forms of rheumatic lesions of the nervous system. Klin.
med. no. 9:56-60 '61. (MIRA 15:6)

1. Iz TSentral'nogo instituta sudebnoy psichiatrii imeni professora
Serbskogo (dir. - dotsent G. V. Morozov) i kafedry nervnykh
bolezney (zav. - prof. N. S. Chetverikov) TSentral'nogo instituta
usovershenstvovaniya vrachey.

(BRAIN—DISEASES) (RHEUMATIC FEVER)
(PLETHYSMOGRAPHY)

FOKIN, M.A.

Some characteristics of the vascular tone in patients with rheumatic cerebral lesions, according to data of piezopulso-graphy. Vop. revm. 3.no.3:31-37 Jl-S'63 (MIRA 17:3)

1. Iz kafedry nervnykh bolezney (zav. - prof. N.S. Chetverikov; nauchnyy rukovoditel' - prof. M.B. TSuker) TSentral'nogo instituta usovershenstvovaniya vrachey.

FOKIN, M.D.

Agafonov, M.I. and Fokin, M.D., "Automatic Control of Piston Action in a Brake Cylinder," Moscow, Transzheldorizdat, 1953, 25 pages with sketches, (All-Union Rail Transport Research Institute, Circular, No 269).

ALBEGOV, Nikolay Aleksandrovich, kandidat tekhnicheskikh nauk;
LATYSHEV, Konstantin Vasil'yevich, kandidat tekhnicheskikh nauk;
USPENSKIY, Viktor Konstantinovich, kandidat tekhnicheskikh nauk;
FOKIN, Mikhail Dmitriyevich, inzhener; YASENTSEV, Viktor Filippovich, inzhener; EMAYLOVSKIY, N.G., inzhener, redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Electropneumatic brakes] Elektropnevmaticheskie tormoza. Moskva,
Gos. transp. zhel-dor. izd-vo, 1955. 137 p. (MLRA 9:2)
(Brakes)

FOKIN, M.D., inzhener.

More accurate calculation of braking distances. Vest.
TSNII MPS 15 no.1:22-26 Ag '56.

(MLRA 9:12)

(Railroads--Brakes)

SHISHLYAKOV, A.V., kandidat tekhnicheskikh nauk; FOKIN, I.D. inzhener;
YASENTSEV, V.F., inzhener; LATYSHEV, K.V., kandidat tekhnicheskikh
nauk; ALBEGOV, N.A., kandidat tekhnicheskikh nauk.

The electro-pneumatic brake. Zhel. dor. transp. 38 no.8:18-23
Ag '56. (MLRA 9:10)

(Railroads--Brakes)

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000413410016-1

FOKIN, M.D., inshener.

Braking rapid trains. Trudy TSNII MPS no. 127:55-86 '57.
(Railroads--Brakes) (MLRA 10:8)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000413410016-1"

32(3)

SOV/112-59-3-5117

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 3, p 117 (USSR)

AUTHOR: Fokin, M. D.

TITLE: Ways for Improving Air Brakes on the Electric and Diesel Rolling Stocks
(Puti usovershenstvovaniya vozдушных тормозов электрического и дизельного подвижного состава)

PERIODICAL: Elektr. i teplovozn. tyaga, 1958, Nr 1, pp 10-14

ABSTRACT: Necessity for improving pneumatic brakes on electric locomotives and diesel-electric locomotives is noted, and considerations are presented about possible application of electric control to direct-acting brakes on freight locomotives. The electric air distributor, in this scheme, would be connected directly to the pressure main bypassing the storage tank. This modernization would minimize the time of cylinder filling and release, would eliminate piping between the braking cylinders, and would require laying only two additional wires. Using the electropneumatic brake on the locomotive would provide a reliable braking means for sole-locomotive high-speed trips, would facilitate

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SOV/112-59-3-5117

Ways for Improving Air Brakes on the Electric and Diesel Rolling Stocks

transition of the whole train to electropneumatic braking, and would permit using the locomotive brake as an anti-spinning device. It is recommended that a diaphragm-type air relay be added to the electropneumatic brakes on the motive-power units in actual operation at present. Preserving the effectiveness and reliability of braking, the above steps would permit simplification of the braking equipment, reduction of its primary cost and operating expenses, use of better electric air distributors and standardization of them for motor and trailer cars. Raising the general effectiveness of brakes can be accomplished by these measures: adoption of non-metallic brake shoes having high friction coefficient at high speeds which would permit reducing the braking-cylinder pressure to 2-2.2 tons; development of disk-type brakes; standardization of various types of brake blocks and shoes; changing the position of braking equipment on 2-cab locomotives automatically.

B.N.G.

Card 2/2

ALBEGOV, N.A., kand.tekhn.nauk; SHISHLYAKOV, A.V., kand.tekhn.nauk;
YASENTSEV, V.F., kand.tekhn.nauk; MOKHOVIKOV, D.I., inzh.; FOKIN,
M.D., inzh.

Development and prospects for the adoption of electropneumatic
brakes. Trudy TSMII MPS no.163:134-168 '58. (MIRA 12:2)
(Railroads--Brakes)